



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

11A

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/752,873

01/06/2004

Frederick M. Shofner

SEA-19

4852

31671

7590

04/05/2007

STEVEN C. SCHNEDLER

CARTER SCHNEDLER & MONTEITH, PA

56 CENTRAL AVE., SUITE 101

PO BOX 2985

ASHEVILLE, NC 28802

EXAMINER

VALENTIN, JUAN D

ART UNIT

PAPER NUMBER

2877

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
--	-----------	---------------

3 MONTHS

04/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No. 10/752,873	Applicant(s) SHOFNER ET AL.	
	Examiner Juan D. Valentin II	Art Unit 2877	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 December 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 12-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/11/2006</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 2-11 have been considered but are moot in view of the new ground(s) of rejection.

### ***Election/Restrictions***

2. Applicant's election with traverse of claims 1-11 in the reply filed on 12/11/2006 is acknowledged. The traversal is on the ground(s) that the examiners stated reason for restriction is not understood. This is not found persuasive because as shown in the Non-Final Office Action dated 08/09/2006 the inventions are clearly distinct and independent from one another due to their classification in separate classes and it would place an undue burden on examiner to examine both inventions.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim 11 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are directed to a judicial exception, specifically an abstract idea; as such, pursuant to the Interim Guidelines on Patent Eligible Subject Matter (MPEP 2106), the claims must have either physical transformation and/or a useful, concrete and tangible result. The

Art Unit: 2877

claims fail to include transformation from one physical state to another. Although, the claims appear useful and concrete, there does not appear to be a tangible result claimed. Merely carrying out the steps of identifying; determining; devising; evaluating; analyzing; etc...would not appear to be sufficient to constitute a tangible result, since the outcome of the step has not been used in a disclosed practical application nor made available in such a manner that its usefulness in a disclosed practical application can be realized. As such, the subject matter of the claims is not patent eligible.

*Practical application that produces a useful, concrete, and tangible result* under Section IV determines whether the claimed invention complies with the subject matter eligibility requirement of 35 U.S.C. Sec. 101, sentence 3, in the OG Notice from 22 November 2005 "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" states "In determining whether the claim is for a "practical application," the focus is not on whether the steps taken to achieve a particular result are useful, tangible, and concrete, but rather that the final result achieved by the claimed invention is "useful, tangible, and concrete."

Further amplifying the 101 rejection, examiner notes that the final step of claim 11 is "analyzing...to produce a fiber length distribution". A deeper look into the specification reveals the production of "a fiber length distribution" is merely a series of mathematical algorithms carried out within a processor and the analyzed result of this calculation is not output anywhere enabling said result to become useful and concrete as stated above. Merely claiming analyzing and/or determining do not make the result useful and/or tangible. Unless the processor carries out another step with the calculated information, how can anyone retrieve, use, and/or see the information derived by the processing step. MPEP 2106.02 clearly states:

“If the “acts” of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. *Gottschalk v. Benson*, 409 U.S. 63, 71 - 72, 175 USPQ 673, 676 (1972). Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process.

In practical terms, *claims define non-statutory processes if they:*

– *consist solely of mathematical operations without some claimed practical application*  
(i.e., executing a “mathematical algorithm”) (emphasis added).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-11 rejected under 35 U.S.C. 103(a) as being unpatentable over Ghorashi et al. (USPN ‘394, hereinafter Ghorashi) in view of Shofner et al. (USPN ‘515, hereinafter Shofner).

#### **Claim 2**

Ghorashi discloses an apparatus for fiber length measurements from a tapered beard attached to a fiber sampler, comprising a rectangular channel into which a tapered beard is drawn by a gas flow through said channel, said channel having two opposed major sides corresponding to channel width and length, and two opposed minor sides corresponding to channel height and length, one of said major sides comprising a transparent window, and

Art Unit: 2877

an optical imaging device viewing/scanning (col. 11, lines 6-12, col. 12, lines 3-13 & lines 52-60) the tapered beard through said transparent window (col. 3, lines 31-39, col. 4, lines 16-26, col. 10, line 59-col. 11, line 12, col. 11, line 33-col. 12, line 12, col. 12, lines 47-60, col. 13, line 59-col. 14, line 3, col. 16, line 6-col. 17, line 31). Ghorashi as applied above further discloses a digital computer 200 connected to an output of said optical imaging device (CCD) for storing two-dimensional image data (col. 10, line 59-col. 11, line 12).

Ghorashi substantially teaches the claimed invention except that it fails to show an acquiring a two dimensional image of the tapered beard and determining fiber amount as a function of one-dimensional distance  $x$  from the fiber sampler by averaging across the width of the tapered beard imaged. Shofner shows that it is known to provide acquiring a two dimensional image of the tapered beard and determining fiber amount as a function of one-dimensional distance  $x$  from the fiber sampler by averaging across the width of the tapered beard imaged (col. 2, lines 59-64, col. 3, line 13-col. 4, line 14) for a carding machine. It would have been obvious to someone of ordinary skill in the art to combine the device of Ghorashi with the two-dimensional imaging of Shofner for the purposes of providing a control system for sensing the physical properties of cotton as it progresses through a gin (Ghorashi, abstract). Shofner discloses using a two-dimensional representation of a fiber in order to determine the diameter of a fiber versus its length. The Examiner is defining the axis that the length of the fiber runs parallel with the  $x$ -axis; therefore the diameter (i.e. width) of the fiber is correlated in terms of a one-dimensional function of a distance along the  $x$ -axis (i.e. length) from a fiber measurement area.

Art Unit: 2877

**Claim 6**

Ghorashi as applied above further discloses a digital camera (col. 11, lines 7-12).

**Claims 7 & 8**

Ghorashi as applied above further discloses the claimed invention except for specific size or exact air flow rates. It is inherent to someone of ordinary skill in the art at the time of the invention was made to find the optimum size and optimum air flow rate, since it has been held that discovering an optimum value or workable range of a result effective variable involves only routine skill in the art.

**Claims 11, 19**

The method is taught/suggested by the functions shown/stated/set forth with regards to the apparatus claims 2 & 17 respectively as rejected above in view of Ghorashi.

**Claim 17**

Ghorashi as applied above further discloses wherein said imaging device provides spectrally-resolved data, and the fiber amount as a function of one-dimensional distance  $x$  is determined based on data for a particular color (col. 10, line 59-col. 11, line 4).

5. Claims 3-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Ghorashi in view of Shofner and further in view of Shofner et al. (WIPON WO 01/20321 A2, applicant's IDS submission dated 12/11/2006, hereinafter Shofner2).

**Claims 3-5**

Ghorashi discloses as applied above substantially teaches the claimed invention except that it fails to show a the use of a color scanner. Shofner2 shows that it is known to provide a

Art Unit: 2877

color scanner (page 9, lines 17-28) for a cotton fiber testing and processing machine. It would have been obvious to someone of ordinary skill in the art to combine the device of Ghorashi with the color scanner of Shofner2 for the purposes of providing superior fiber classification.

6. Claims 9-10, 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Shofner2 in view of Shofner.

**Claims 9-10**

Shofner2 discloses an apparatus for fiber length measurements from a tapered beard attached to a fiber sampler, comprising a scanner (page 9, lines 17-28) intended for scanning documents positioned with reference to the tapered beard for acquiring a two-dimensional image of the tapered beard.

Shofner2 substantially teaches the claimed invention except that it fails to show an acquiring a two dimensional image of the tapered beard and determining fiber amount as a function of one-dimensional distance  $x$  from the fiber sampler by averaging across the width of the tapered beard imaged. Shofner shows that it is known to provide acquiring a two dimensional image of the tapered beard and determining fiber amount as a function of one-dimensional distance  $x$  from the fiber sampler by averaging across the width of the tapered beard imaged (col. 2, lines 59-64, col. 3, line 13-col. 4, line 14) for a carding machine. It would have been obvious to someone of ordinary skill in the art to combine the device of Shofner2 with the two-dimensional imaging of Shofner for the purposes of providing a control system for sensing the physical properties of cotton as it progresses through a gin. Shofner discloses using a two-dimensional representation of a fiber in order to determine the diameter of a fiber versus its



Art Unit: 2877

length. The Examiner is defining the axis that the length of the fiber runs parallel with the x-axis; therefore the diameter (i.e. width) of the fiber is correlated in terms of a one-dimensional function of a distance along the x-axis (i.e. length) from a fiber measurement area.

**Claim 18**

Shofner2 as applied above further discloses wherein said imaging device provides spectrally-resolved data, and the fiber amount as a function of one-dimensional distance  $x$  is determined based on data for a particular color (page 16, lines 18-36).

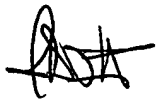
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan D. Valentin II whose telephone number is (571) 272-2433. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on (571) 272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2877

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

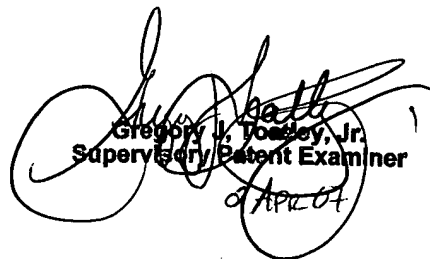


Juan D Valentin II

Examiner 2877

JDV

April 2, 2007



Gregory J. Tooley, Jr.  
Supervisory Patent Examiner  
4 APR 07